



PFAS Test Data and Action Plan

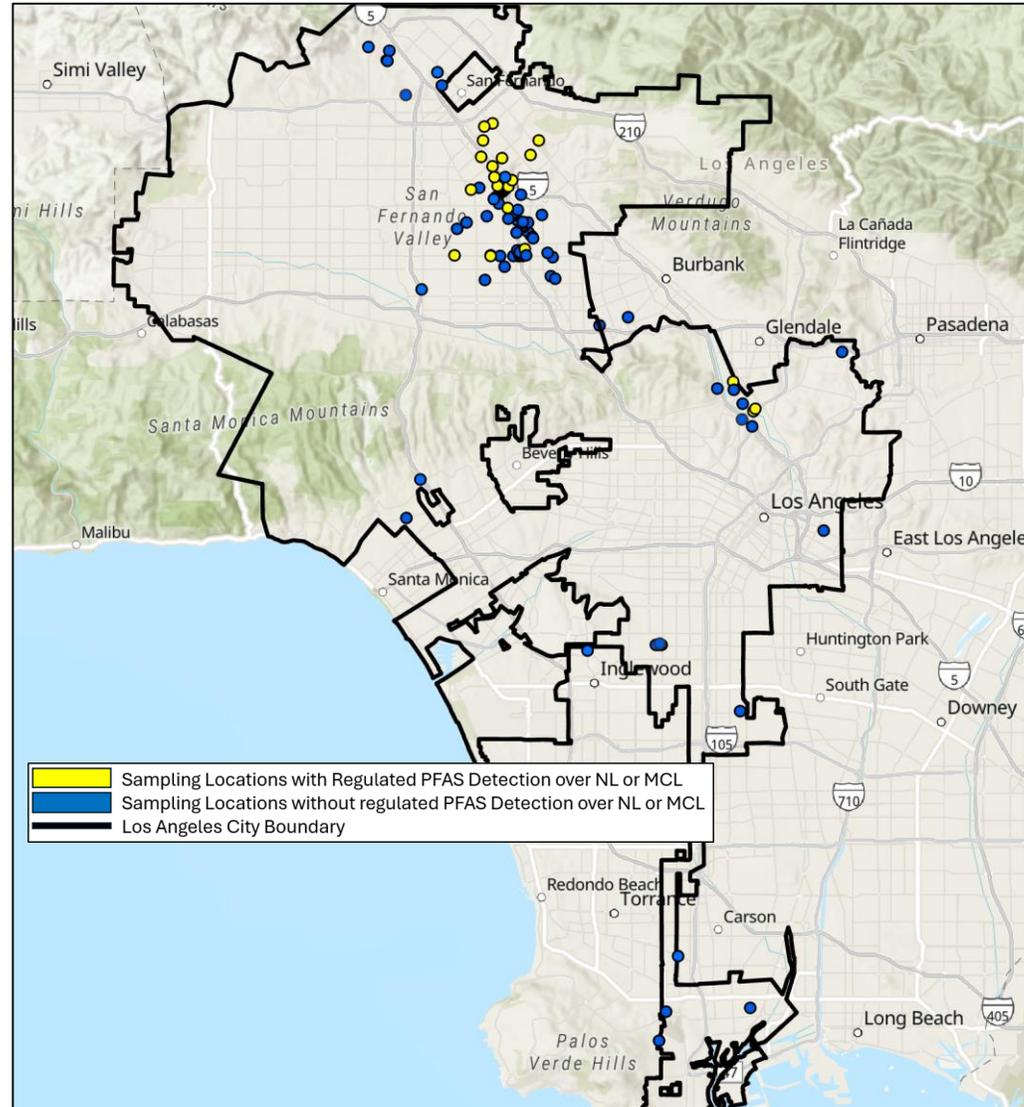
LADWP Water System
July 2024



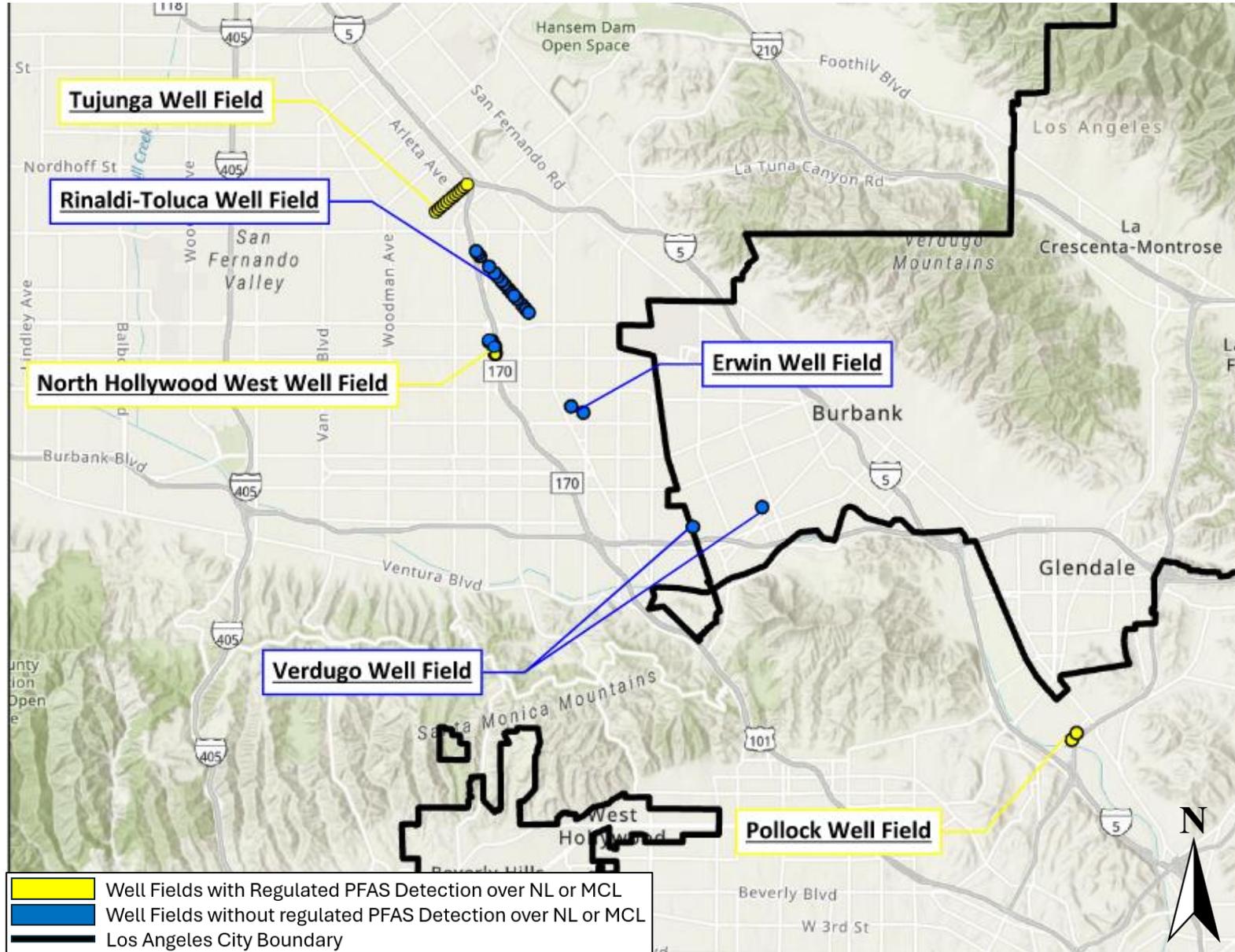
PFAS Testing to Date

- LADWP started testing for PFAS in 2013
- 768 samples collected & 14,840 analytes tested to date
 - a. Regulatory Programs and Monitoring Orders
 - b. Permit Applications & Facility Design
 - c. Discretionary & Operational Monitoring
- **Regulated PFAS NOT DETECTED in the Distribution System (water served to customers)**
- PFAS not detected in Los Angeles Aqueduct (LAA) Supply
- PFAS detections in untreated source water (various wells at Pollock, Tujunga, and NH-West Well Fields)
- Unregulated PFAS detections in MWD supply

PFAS Monitoring of the LADWP System



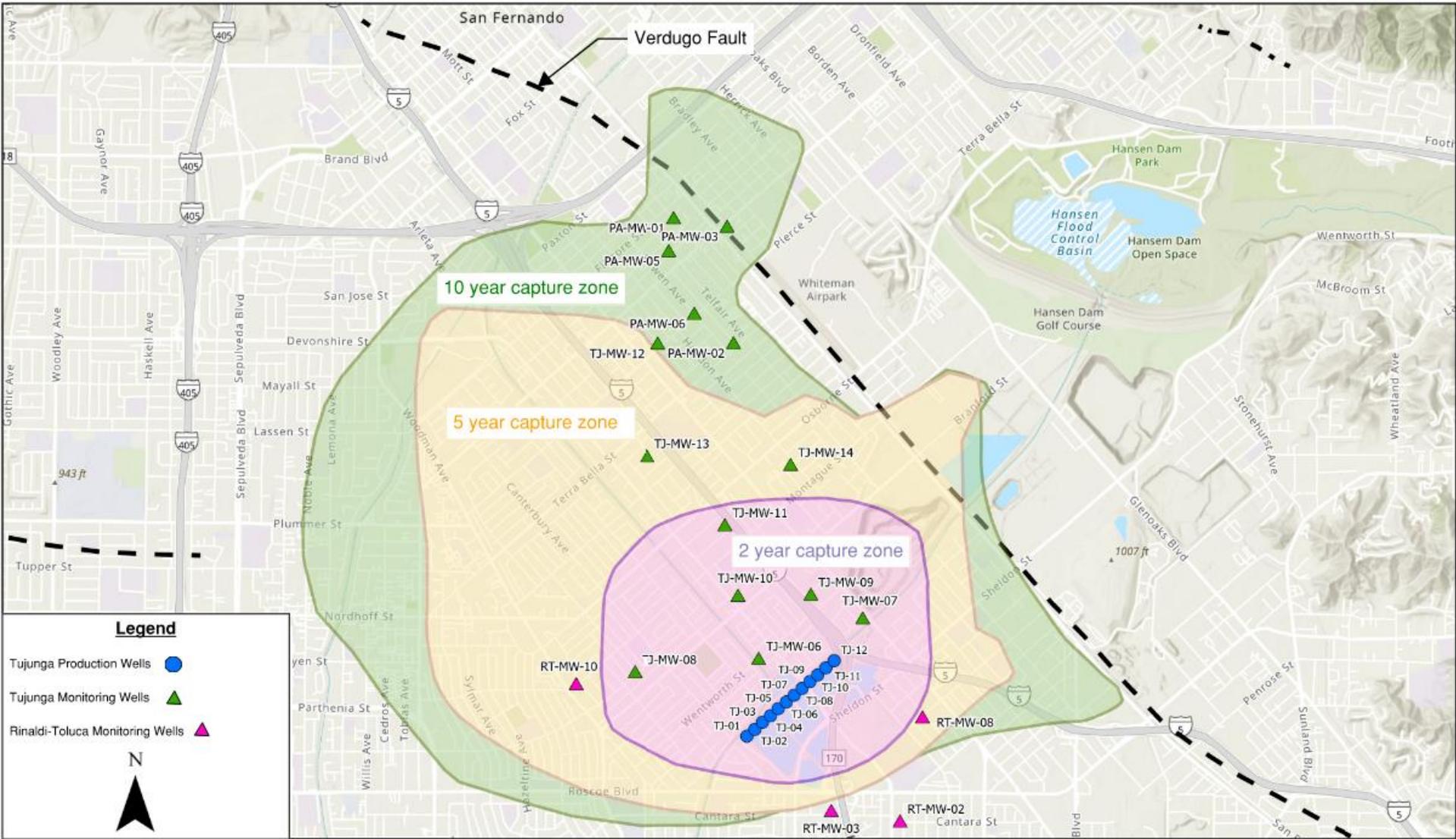
PFAS Test Results in San Fernando Basin Well Fields



LADWP PFAS Action Plan

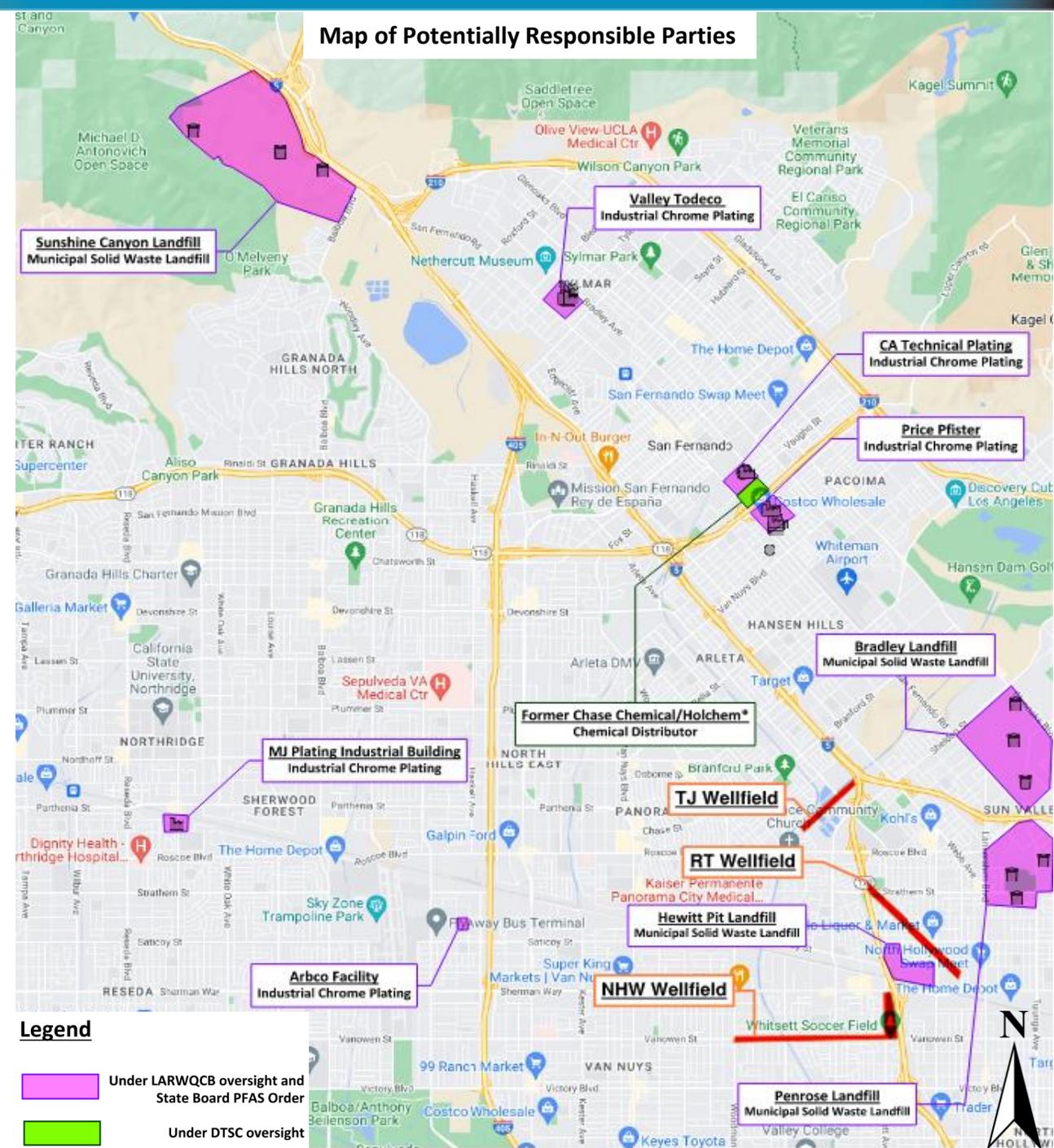
- I. Continue and Expand Monitoring
- II. Identify, Contain, and Remediate Sources
- III. Develop Approved Treatment Plans
- IV. Actively Participate in Research and Studies
- V. Support Legal Claims and Hold Polluters Accountable

Continue and Expand Monitoring: Tujunga Well Field



Identify and Remediate Sources

- Multiple sites with PFAS detections in LARWQCB Geotracker Database
- USEPA, LARWQCB, and DTSC have authority to issue orders for monitoring and remediation
- USEPA and LARWQCB supporting LADWP by requiring more regular testing at proximal sites
- Coordinated sampling and data sharing will be essential to SFB Groundwater assessment



Research: PFAS Treatment Bench-Scale Testing

RAPID SMALL-SCALE COLUMN TESTS (RSSCTs)

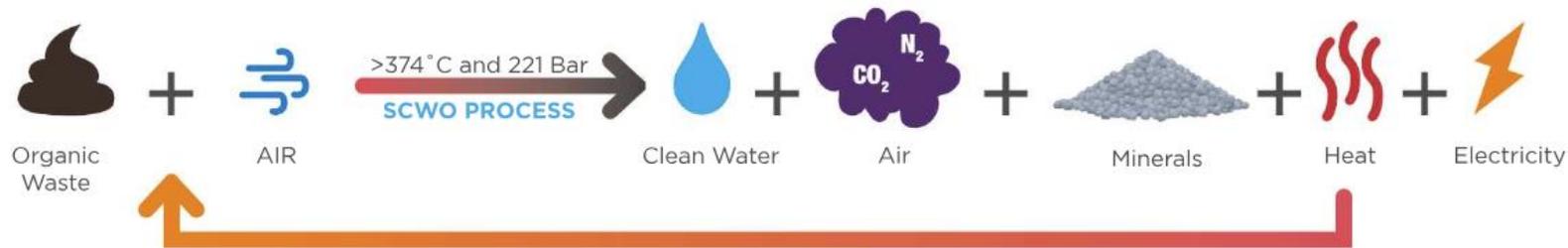
- ❑ Source water is Tujunga Well Field
- ❑ Evaluate effectiveness of 13 adsorbents to remove PFAS
- ❑ Two Rounds of Testing
 - ✓ 2 Jacobi GAC products
 - ✓ 6 bituminous coal GAC products
 - ✓ 4 ion-exchange (IX) resin products
 - ✓ 1 clay-based IX resin



Active Participation in PFAS Research and Studies



Post-Treatment Supercritical Destruction of PFAS by 374Water Process



SINCE 1933

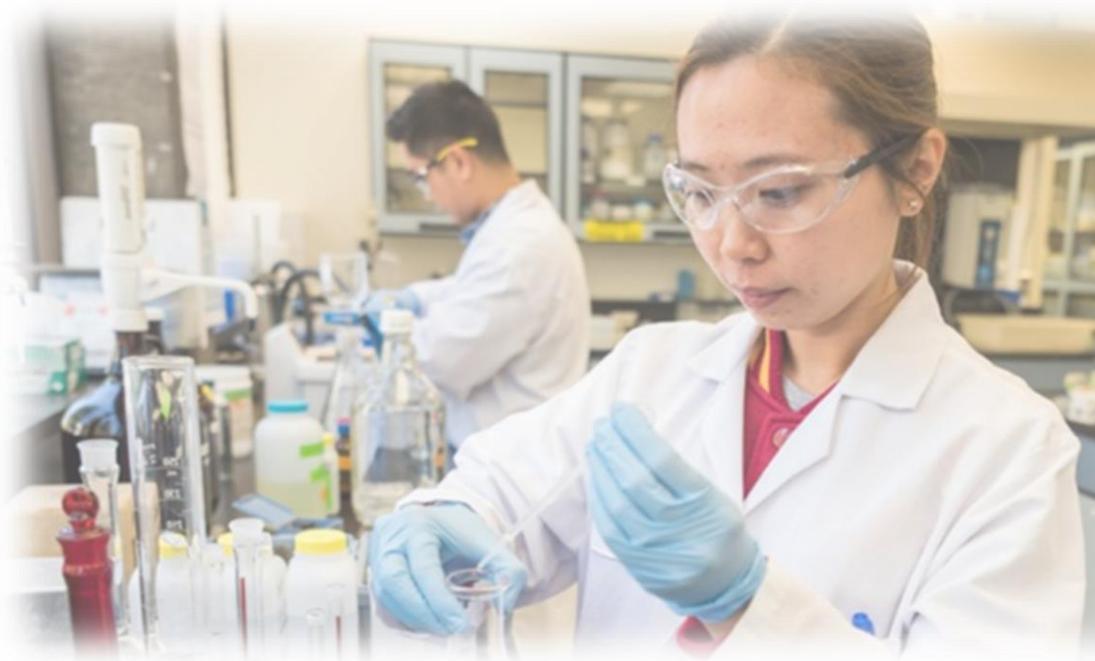


Legal – Holding Producers and Polluters Accountable

- ❑ The City Attorney’s Office initiated litigation on April 19, 2024
- ❑ Against more than two dozen chemical companies, including 3M, DuPont, and Carrier
- ❑ LADWP has and will continue to support cost recovery efforts
 - ✓ Testing and Detections
 - ✓ NCP Process to review remediation options
 - ✓ Capital and O&M costs associated with PFAS Treatment Facilities



QUESTIONS?



Keeping
Your
Water
Safe

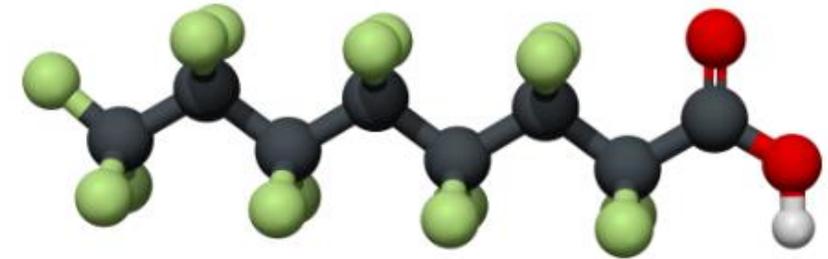
Backup Slides

(Background, Regulations, and History)

PFAS BACKGROUND

WHAT ARE PFAS?

- THE POLY AND PER-FLUOROALKYL SUBSTANCES (PFAS) ARE A GROUP OF CHEMICALS USED TO MAKE A WIDE RANGE OF CONSUMER PRODUCTS THAT RESIST HEAT, OIL, STAINS, GREASE, AND WATER
- OFTEN FOUND IN PRODUCTS LIKE NON-STICK COOKWARE, WATER-REPELLENT CLOTHING, AND FOOD PACKAGING.



PFAS HEALTH RISKS AND HAZARDS

- NICKNAMED “FOREVER CHEMICALS” BECAUSE PFAS CAN PERSIST IN THE ENVIRONMENT AND THE HUMAN BODY FOR A LONG TIME.
- PEOPLE CAN BE EXPOSED TO PFAS THROUGH CONTAMINATED FOOD AND BEVERAGES, OR THE DEGRADATION OF CONSUMER PRODUCTS.
- PFAS ENTER DRINKING WATER SOURCES PRIMARILY FROM RECEIVING CONTAMINATED WATER AND INDUSTRIAL OR FIREFIGHTING FOAM USE.

FEDERAL (USEPA) PFAS LIMITS

| Chemical | MCL (enforceable levels) |
|---|--------------------------------|
| PFOA | 4.0 ppt |
| PFOS | 4.0 ppt |
| PFHxS | 10 ppt |
| PFNA | 10 ppt |
| HFPO-DA (GenX) | 10 ppt |
| Mixtures with two or more of PFHxS, PFNA, HFPO-DA (GenX), and PFBS | 1.0 (unitless) Hazard Index |

$$\text{Hazard Index (1 unitless)} = \left(\frac{[\text{HFPO-DA}_{\text{ppt}}]}{[10 \text{ ppt}]} \right) + \left(\frac{[\text{PFBS}_{\text{ppt}}]}{[2000 \text{ ppt}]} \right) + \left(\frac{[\text{PFNA}_{\text{ppt}}]}{[10 \text{ ppt}]} \right) + \left(\frac{[\text{PFHxS}_{\text{ppt}}]}{[10 \text{ ppt}]} \right)$$

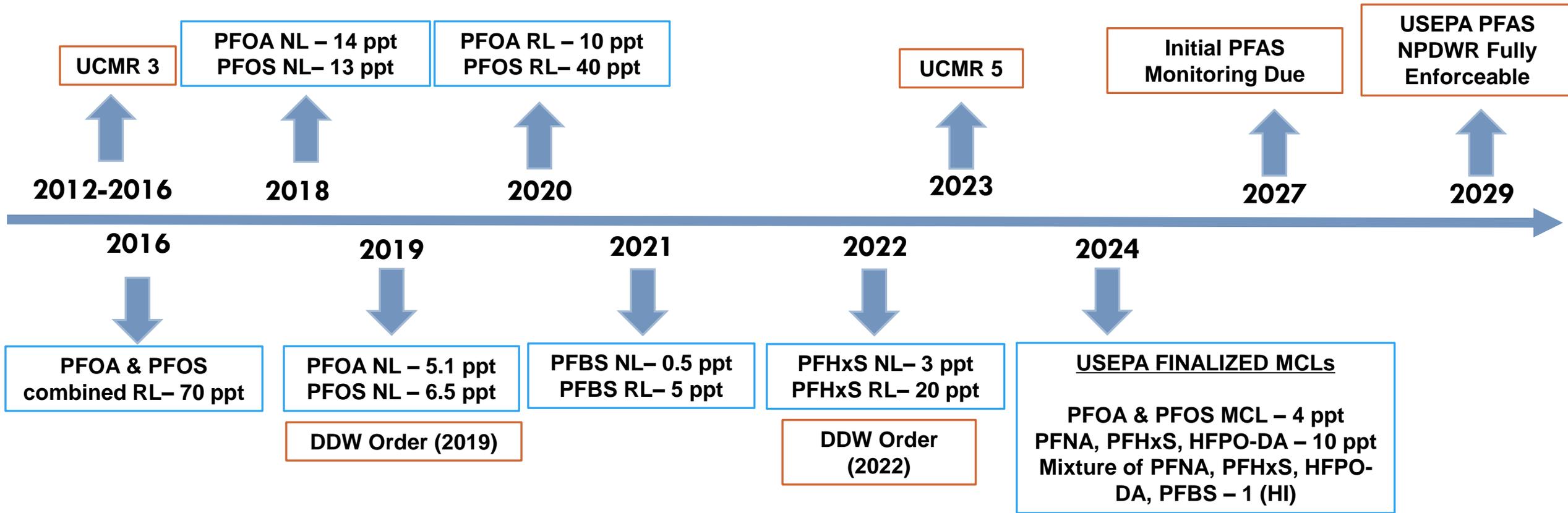
- **Maximum Contaminant Levels (MCLs):** maximum level allowed of a contaminant in water which is delivered to any user of a public water system.
- **Initial monitoring must be done by 2027.**
- **Newly finalized USEPA MCLs to take effect in 2029.**

STATE (DDW) PFAS LIMITS

| Chemical | Notification Level | Response Level |
|----------|--------------------|----------------|
| PFOA | 5.1 ppt | 10 ppt |
| PFOS | 6.5 ppt | 40 ppt |
| PFBS | 500 ppt | 5,000 ppt |
| PFHxS | 3 ppt | 20 ppt |

- **Notification Levels (NL):** Nonregulatory, health-based advisory levels established for contaminants in drinking water for which MCLs have not been established.
- **Response Levels (RL):** Recommended concentration level for a given chemical at which water systems should consider taking the water source out of service or implementing treatment if feasible.
- Currently, designated NLs and RLs exist for four of the PFAS compounds: PFOA, PFOS, PFHxS, and PFBS. These were established at the state level by DDW

PFAS REGULATIONS TIMELINE



LEGENDS

HI – HAZARD INDEX
MCL – MAXIMUM CONTAMINANT LEVEL
NL – NOTIFICATION LEVEL
NPDWR – NATIONAL PRIMARY DRINKING WATER REGULATION
RL – RESPONSE LEVEL

PFAS MONITORING TO DATE



- **11 Distribution Locations (2013: Quarterly Monitoring)**
DS066, RSBL, PLVRSDE, PVACM, MWDLA16, TJCNTRBY, MHPS, LACLRWEL, NNPS, MIHUBBRD, EGLRK42A



- **8 Active Well Fields (2018 and 2019)**
Mission, Tujunga, Rinaldi-Toluca, North Hollywood, Erwin, Verdugo, Manhattan, and Pollock Well Fields



- **Monitoring Order (2019: Quarterly Monitoring)**
Erwin and Rinaldi-Toluca Well Fields
- **Monitoring Order (2022: Monthly Monitoring)**
Pollock Well Field
- **Monitoring Order (2022: Annual Monitoring)**
Mission and Manhattan Well Fields



- **North Hollywood West (2023)**
- **North Hollywood Central (2023)**
- **Tujunga (2023)**
Remediation wells & 2-year capture zone monitoring wells



- **7 distribution locations (2023: Quarterly Monitoring)**
BYPIN, RSCBCL, EGLRK42A, PVACM, MHPS, MIHUBBRD, TJPSDISC

UCMR3

LADWP
BASELINE

DDW Orders

97-005
Permit

UCMR5